

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/NL2004/000623

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B01D69/00 B01D67/00 B01D71/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 801 379 A (RUEGG THOMAS ET AL) 31 January 1989 (1989-01-31)  the whole document	9-11, 13-15, 17-21
X	US 4 923 608 A (TRETZEL JOACHIM ET AL) 8 May 1990 (1990-05-08) the whole document	1,6,8,9, 13,14,16
X	US 2003/100136 A1 (DOUGHERTY GEORGE M) 29 May 2003 (2003-05-29) abstract; figures 1-2E paragraphs [0009], [0011], [0013] - [0015], [0029] - [0037], [0064]  -/--	9,10,13, 14,16

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

13 December 2004

Date of mailing of the international search report

21 03. 2005

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 797 211 A (EHRFELD WOLFGANG ET AL) 10 January 1989 (1989-01-10) the whole document in het bijzonder, kolom 3, regel 60 - kolom 4, regel 3	9,13,16, 17,19
A	-----	1,2,6
X	WO 03/035233 A (BABA MASAKAZU ;IIDA KAZUHIRO (JP); KAWAURA HISAO (JP); SANO TORU ( ) 1 May 2003 (2003-05-01) abstract; figures 1,2,5,20	9,13,16, 17,19
A	----- WO 95/13860 A (RIJN CORNELIS JOHANNES MARIA V) 26 May 1995 (1995-05-26) cited in the application the whole document -----	1-21

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/NL2004/000623

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-21

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

## 1. claims: 1-21

- A method for manufacturing a microsieve comprising the steps of:
  - \* etching the pores in a first predetermined spatial pattern;
  - \* providing a second predetermined spatial pattern of height variations in the cross flow surface of the membrane, so that within a vicinity of a majority of the pores, at a distance of less than ten pore sizes from each of the pores in the majority, at least one of the height variations is provided.
- A microsieve obtained by the above method.
- A filtering apparatus provided with the above mentioned microsieve

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## 2. claims: 22-35

- A microsieve provided with a membrane layer and a supporting layer, wherein the membrane layer is divided into mutually separate first and second membrane surfaces, wherein the membrane surfaces are elongate in shape, and longitudinal in shape, and longitudinal directions of the first membrane surfaces run substantially parallel relative to each other, longitudinal directions of the second membrane surfaces run substantially parallel relative to each other, and the longitudinal to each other, and the longitudinal direction of the first membrane surfaces makes an angle different from zero with the longitudinal direction of the second membrane surfaces.
- A filter assembly provided with such a microsieve

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## 3. claim: 36

- A method for manufacturing a microsieve provided with a supporting layer and a membrane layer with pores, in which method openings are etched with a wet anisotropic etching process.

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/NL2004/000623

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4801379	A	31-01-1989	CH 671709 A5	29-09-1989
			AT 73687 T	15-04-1992
			DE 3777480 D1	23-04-1992
			DK 230187 A	24-01-1988
			EP 0254103 A1	27-01-1988
			FI 871954 A	24-01-1988
			JP 63031516 A	10-02-1988
			NO 872990 A	25-01-1988
US 4923608	A	08-05-1990	DE 3742770 A1	29-06-1989
			DE 3887121 D1	24-02-1994
			EP 0325752 A1	02-08-1989
			JP 2043927 A	14-02-1990
US 2003100136	A1	29-05-2003	AU 2002352727 A1	10-06-2003
			WO 03045539 A1	05-06-2003
			US 2004212028 A1	28-10-2004
US 4797211	A	10-01-1989	DE 3546091 A1	02-07-1987
			CA 1288057 C	27-08-1991
			EP 0231432 A2	12-08-1987
			JP 62160117 A	16-07-1987
			KR 9312031 B1	23-12-1993
WO 03035233	A	01-05-2003	JP 2004042012 A	12-02-2004
			CA 2465099 A1	01-05-2003
			EP 1457251 A1	15-09-2004
			WO 03035233 A1	01-05-2003
			US 2004256318 A1	23-12-2004
WO 9513860	A	26-05-1995	NL 9301971 A	01-06-1995
			NL 9401260 A	01-06-1995
			AU 1414095 A	06-06-1995
			WO 9513860 A1	26-05-1995
			EP 0728034 A1	28-08-1996
			US 5753014 A	19-05-1998